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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,436	09/12/2003	Stephan Kirchmeyer	CH-7771/STA208	8141
34947	7590	01/28/2005	EXAMINER	
LANXESS CORPORATION PATENT DEPARTMENT/ BLDG 14 100 BAYER ROAD PITTSBURGH, PA 15205-9741			VU, HUNG K	
			ART UNIT	PAPER NUMBER
			2811	

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/661,436

Applicant(s)

KIRCHMEYER ET AL.

Examiner

Hung Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/12/03, 3/29/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's election without traverse of Invention of Group I, Claims 1-15 and 22, in the reply filed on 11/01/04 is acknowledged.

Claims 16-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 11/01/04.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (PN 6,025,462, of record).

Wang et al. discloses, as shown in Figures 1-6, a compound characterized in that they have a core-shell structure comprising a core made up of multifunctional units and a shell of linear conjugated oligomeric chains which are each dept at the terminal linkage point by a flexible nonconjugated chain.

Regarding claim 2, Wang et al. discloses compounds have a core-shell structure of the formula as claimed.

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Regarding claim 3, Wang et al. discloses the core comprises dendritic structures.

Regarding claim 4, Wang et al. discloses the core contains 1,3,5-phenylene units as dendritic structures.

Regarding claim 5, Wang et al. discloses the core comprises hyperbranched structures.

Regarding claim 6, Wang et al. discloses the core comprises contains a hyperbranched polymer as hyperbranched structures.

Regarding claim 7, Wang et al. discloses the shell contains chains comprising units of substituted or unsubstituted 2, 5-thiophenes or substituted or unsubstituted 1,4-phenylenes as linear conjugated oligomeric chains.

Regarding claim 8, Wang et al. discloses the shell contains chains comprising units of unsubstituted 2, 5-thiophenes or 2,5-(3,4-ethylenedioxythiophene) as linear conjugated oligomeric chains.

Regarding claim 9, Wang et al. discloses the linear conjugated oligomeric chains are chains having a chain length of from 2 to 7 units.

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Regarding claim 10, Wang et al. discloses the linear conjugated oligomeric chains are each capped at the terminal linkage positions by identical or different, branched or unbranched alkyl or alkoxy groups.

Regarding claim 11, Wang et al. discloses the alkyl or alkoxy groups are unbranched C<sub>2</sub>-C<sub>20</sub>-alkyl or C<sub>2</sub>-C<sub>20</sub>-alkoxy groups.

Regarding claim 12, Wang et al. discloses the alkyl or alkoxy groups are n-hexyl, n-decyl or n-dodecyl groups.

Regarding claim 13, Wang et al. discloses compounds form mesophases at temperatures in the range from 50°C to 300°C

Regarding claim 14, Wang et al. discloses compounds are semiconductive.

Regarding claim 22, Wang et al. discloses electronic components comprising compounds according to claim 1 as semiconductor.

3. Claims 1-14 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Burn et al. (WO 01/59030, of record).

Burn et al. discloses, as shown in Figures 1-31, a compound characterized in that they have a core-shell structure comprising a core made up of multifunctional units and a shell of linear

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conjugated oligomeric chains which are each dect at the terminal linkage point by a flexible nonconjugated chain.

Regarding claim 2, Burn et al. discloses compounds have a core-shell structure of the formula as claimed.

Regarding claim 3, Burn et al. discloses the core comprises dendritic structures.

Regarding claim 4, Burn et al. discloses the core contains 1,3,5-phenylene units as dendritic structures.

Regarding claim 5, Burn et al. discloses the core comprises hyperbranched structures.

Regarding claim 6, Burn et al. discloses the core comprises contains a hyperbranched polymer as hyperbranched structures.

Regarding claim 7, Burn et al. discloses the shell contains chains comprising units of substituted or unsubstituted 2, 5-thiophenes or substituted or unsubstituted 1,4-phenylenes as linear conjugated oligomeric chains.

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Regarding claim 8, Burn et al. discloses the shell contains chains comprising units of unsubstituted 2, 5-thiophenes or 2,5-(3,4-ethylenedioxythiophene) as linear conjugated oligomeric chains.

Regarding claim 9, Burn et al. discloses the linear conjugated oligomeric chains are chains having a chain length of from 2 to 7 units.

Regarding claim 10, Burn et al. discloses the linear conjugated oligomeric chains are each capped at the terminal linkage positions by identical or different, branched or unbranched alkyl or alkoxy groups.

Regarding claim 11, Burn et al. discloses the alkyl or alkoxy groups are unbranched C<sub>2</sub>-C<sub>20</sub>-alkyl or C<sub>2</sub>-C<sub>20</sub>-alkoxy groups.

Regarding claim 12, Burn et al. discloses the alkyl or alkoxy groups are n-hexyl, n-decyl or n-dodecyl groups.

Regarding claim 13, Burn et al. discloses compounds form mesophases at temperatures in the range from 50°C to 300°C

Regarding claim 14, Burn et al. discloses compounds are semiconductive.

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Regarding claim 22, Burn et al. discloses electronic components comprising compounds according to claim 1 as semiconductor.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (PN 6,025,462, of record).

Although Wang et al. does not teach the mobilities of the compounds, as that claimed by Applicants, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the compounds having a desired mobilities, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burn et al. (WO 01/59030, of record).

Although Burn et al. does not teach the mobilities of the compounds, as that claimed by Applicants, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the compounds having a desired mobilities, since it has



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been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

*Conclusion*

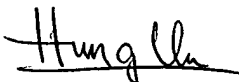
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (571) 272-1666. The examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (571) 272-1732. The Central Fax Number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Vu

January 3, 2005

A handwritten signature in cursive script, appearing to read 'Hung Vu', written over a horizontal line.

Hung Vu

Primary Examiner